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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/915,056	07/25/2001	Masayoshi Kobayashi	P/2291-102	6082

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EXAMINER	
PHILLIPS, HASSAN A	
ART UNIT	PAPER NUMBER
2151	

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/915,056	KOBAYASHI, MASAYOSHI	
	Examiner	Art Unit	
	Hassan Phillips	2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 October 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-64* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-64* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/21/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The Examiner has received the Information Disclosure Statement (IDS) filed September 21, 2001. The Examiner has not considered citation 11-24981, since an English translation of the citation was not provided.

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-13, 28-31, 35-42, 45, 46, 48, 49, 62, 63, are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicants Admitted Prior Art (AAPA) in view of Harada et al. (hereinafter Harada) U.S. Patent 5,956,339.

3. In considering claims 1, 4, 7, 10, 11, 28-31, 35, 37-42, 45, 46, 48, 49, and 62, the AAPA teaches it is well known in the art for network systems to include at least one cache server comprising:

At least one of an automatic cache updating section, a link prefetching control section, and a cache server cooperating section, which carries out respective ones of the automatic cache updating operation, the link prefetching operation, and the cache server cooperating operation. See page 4, lines 12-19.

Although the AAPA shows substantial features of the claimed invention, it fails to show the cache server comprising: A quality-of-service (QoS) path information obtaining section, and a path calculating section.

Nevertheless, in a similar field of endeavor, Harada teaches an apparatus in a packet-switched communications network which comprises: A plurality of path settable routers (SS-1, SS-2, or SS-3) operating a path control protocol to exchange network path information and path load information, relay servers (2, 3, 5, or 6), a QoS path information obtaining section 11 for obtaining QoS path information including network path information and path load information; and, a path calculating section for obtaining a path. See col. 3, lines 40-54.

Given the teachings of Harada, it would have been obvious to one of ordinary skill in the art to modify the teachings of the AAPA in order to show a relay control section for selecting at least one relay server suitable for carrying out at least one of an automatic cache updating operation, a link prefetching operation, and a cache server

cooperating operation, based on the QoS path information obtained by the QoS path information obtaining section, and for instructing the selected at least one relay server about data to be relayed, wherein the at least one relay server relays the data according to an instruction from a relay control section. This would have allowed for stable packet transmission and effective cache updating, link prefetching, or server cooperating operations by implementing various components in the network system to help select the most efficient routes in the network, Harada, col. 3, lines 23-30.

4. In considering claims 2 and 5, Harada provides a means for obtaining a maximum remaining bandwidth path as the path, and a minimum remaining bandwidth on the path obtained. See col. 3, lines 40-54. One of ordinary skill in the art would combine the teachings of Harada with the AAPA to have the at least one of the automatic cache updating section, the link prefetching control section, and the cache server cooperating section determine whether a corresponding one of the automatic cache updating operation, the link prefetching operation, and the cache server cooperating operation is carried out, based on the minimum remaining bandwidth, for the same reasons indicated in consideration of claims 1 and 4.

5. In considering claims 3 and 6, Harada teaches: A router (SS-1, SS-2, or SS-3) on which a path control protocol operates to exchange network path information and path load information, wherein the QoS path information obtaining section 11 obtains the network path information and the path load information in cooperation with the

router. See col. 6, lines 46-58. One of ordinary skill in the art would combine the teachings of Harada with the AAPA for the reasons indicated in consideration of claims 1 and 4.

6. In considering claims 8 and 12, the teachings of Harada provide a means for a relay control section to select a relay server needed for setting a relay path on which there exists no congestion portion. See col. 5, lines 35-67, col. 6, and lines 1-10. One of ordinary skill in the art would combine the teachings of Harada with the AAPA for the reasons indicated in consideration of claims 7 and 11.

7. In considering claims 9 and 13, the teachings of Harada provide a means for when it is not possible to set a relay path on which there exists no congestion portion, the data is relayed to a relay server near to a congestion portion among relay servers that exist upstream from the congestion portion, wherein the relay server near to the congestion portion stores the data and, when the congestion has been disappeared, transfers the data to downstream. See col. 7, lines 5-13. One of ordinary skill in the art would combine the teachings of Harada with the AAPA for the reasons indicated in consideration of claims 7 and 11.

8. In considering claim 36, Harada teaches a relay server relaying data for each content. See col. 3, lines 55-60. One of ordinary skill in the art would combine the

teachings of Harada with the AAPA for the reasons indicated in consideration of claim 35.

9. In considering claim 63, the teachings of Harada provide a means for having a relay controller select at least one router as a relay router from the routers depending on the path calculated by the path calculator. See col. 3, lines 55-60. One of ordinary skill in the art would combine the teachings of Harada with the AAPA for the reasons indicated in consideration of claim 62.

10. Claims 14, 15, 32, 33, 43, 47, are rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA in view of Fukushima et al. (hereinafter Fukushima) U.S. Patent 6,292,489.

11. In considering claims 14, 32, 43, and 47, the AAPA teaches it is well known in the art for network systems to include at least one cache server comprising:

At least one of an automatic cache updating section, a link prefetching control section, and a cache server cooperating section, which carries out respective ones of the automatic cache updating operation, the link prefetching operation, and the cache server cooperating operation. See page 4, lines 12-19.

Although the AAPA shows substantial features of the claimed invention, it fails to show: A priority controllable router.

Nevertheless, in a similar field of endeavor, Fukushima teaches a network system comprising: A priority controllable router 1, capable of controlling a priority of transmitting a packet to a link, based on priority information added to the packet. See col. 5, lines 24-39.

Given the teachings of Fukushima, it would have been obvious to one of ordinary skill in the art to modify the teachings of the AAPA in order to show at least one priority controllable router capable of controlling a priority of transmitting a packet to a link, based on priority information added to the packet, and allowing priority given to a packet to be used for communications generated by at least one of the automatic cache updating operation, the link prefetching operation, and the cache server cooperating operation to be lower than a priority given to a packet to be used for communications generated by a cache operation. This would have provided a better QoS for the network system, col. 2, and lines 7-21.

12. In considering claims 15 and 33, Fukushima provides a means for a priority providing section for providing a priority request source with a priority predetermined for each priority request source, when a request for providing a priority occurs; and, a priority information adding section for adding priority information showing a priority to a packet. See col. 5, lines 24-39. One of ordinary skill in the art would combine the teachings of Fukushima with the AAPA to have a cache operating section, link prefetching control section, automatic cache updating section, and cache server cooperating section, request the priority providing section to provide a priority when a

transmission packet has occurred, and pass the transmission packet and the priority provided by the priority providing section to the priority information adding section for the same reasons indicated in consideration of claims 14 and 32.

13. Claims 16-27, 34, 44, 50-61, are rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA in view of Fukushima, and further in view of Harada.

14. In considering claim 16, although the teachings of the AAPA and Fukushima show substantial features of the claimed invention, they fail to show: A quality-of-service (QoS) path information.

Nevertheless, in a similar field of endeavor, Harada teaches an apparatus in a packet-switched communications network, which comprises: A QoS path information obtaining section for obtaining QoS path information including network path information and path load information. See col. 3, lines 40-54.

Given the teachings of Harada, it would have been obvious to one of ordinary skill in the art to modify the teachings of the AAPA and Fukushima in order to show utilizing the priority providing section to determine a priority based on a priority-request source and QoS path information obtained by the QoS path information obtaining section, when a request for providing priority has occurred. This would have allowed for stable packet transmission, and effective cache updating, link prefetching, or server cooperating operations by choosing and selecting the most efficient routes in the network, Harada, col. 3, lines 23-30.

15. In considering claims 17-27, 34, 44, the AAPA teaches it is well known in the art for network systems to include at least one cache server comprising:

At least one of an automatic cache updating section, a link prefetching control section, and a cache server cooperating section, which carries out respective ones of the automatic cache updating operation, the link prefetching operation, and the cache server cooperating operation. See page 4, lines 12-19.

Although the AAPA shows substantial features of the claimed invention, it fails to show: A priority controllable router.

Nevertheless, in a similar field of endeavor, Fukushima teaches a network system comprising: A priority controllable router 1, capable of controlling a priority of transmitting a packet to a link, based on priority information added to the packet. See col. 5, lines 24-39.

Given the teachings of Fukushima, it would have been obvious to one of ordinary skill in the art to modify the teachings of the AAPA in order to show at least one priority controllable router capable of controlling a priority of transmitting a packet to a link, based on priority information added to the packet, and allowing priority given to a packet used for communications generated by at least one of the automatic cache updating operation, the link prefetching operation, and the cache server cooperating operation to be lower than a priority given to a packet to be used for communications generated by a cache operation. This would have provided a better QoS for the network system, col. 2, and lines 7-21.

Although the teachings of the AAPA and Fukushima further show substantial features of the claimed invention, they fail to show: A quality-of-service (QoS) path information obtaining section, and a path calculating section.

Nevertheless, in a similar field of endeavor, Harada teaches an apparatus in a packet-switched communications network which comprises: A plurality of path settable routers (SS-1, SS-2, or SS-3) operating a path control protocol to exchange network path information and path load information, relay servers (2, 3, 5, or 6), a QoS path information obtaining section 11 for obtaining QoS path information including network path information and path load information; and, a path calculating section for obtaining a path. See col. 3, lines 40-54.

Given the teachings of Harada, it would have been obvious to one of ordinary skill in the art to modify the teachings of the AAPA and Fukushima in order to show a relay control section for selecting at least one relay server suitable for carrying out at least one of an automatic cache updating operation, a link prefetching operation, and a cache server cooperating operation, based on the QoS path information obtained by the QoS path information obtaining section, and for instructing the selected at least one relay server about data to be relayed, wherein the at least one relay server relays the data according to an instruction from the relay control section. This would have allowed for stable packet transmission and effective cache updating, link prefetching, or server cooperating operations by choosing and selecting the most efficient routes in the network, Harada, col. 3, lines 23-30.

16. In considering claims 50, 52, 54, 56, 58, 60, the teachings of Harada provide a means for the relay control section to select at least one relay server that is necessary for setting a relay path on which there exists no congestion portion. See col. 3, lines 54-67, and col. 4, lines 1-5. One of ordinary skill in the art would combine the teachings of the AAPA and Fukushima with Harada for the reasons indicated in consideration of claims 22 and 23.

17. In considering claims 51, 53, 55, 57, 59, 61, the teachings of Harada provide a means for when it is not possible to set a relay path on which there exists no congestion portion, the data is relayed to a relay server near to a congestion portion among relay servers that exist upstream from the congestion portion, wherein the relay server near to the congestion portion stores the data and, when the congestion has been disappeared, transfers the data to downstream. See col. 7, lines 5-13. One of ordinary skill in the art would combine the teachings of Harada with the AAPA and Fukushima for the reasons indicated in consideration of claim 22.

18. Claim 64, is rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA in view of Harada, and further in view of Fukushima.

19. In considering claim 64, although the teachings of the AAPA and Harada shows substantial features of the claimed invention, they fail to show: A priority controllable router.

Nevertheless, in a similar field of endeavor, Fukushima teaches a network system comprising: A priority controllable router 1, capable of controlling a priority of transmitting a packet to a link, based on priority information added to the packet. See col. 5, lines 24-39.

Given the teachings of Fukushima, it would have been obvious to one of ordinary skill in the art to modify the teachings of the AAPA and Harada in order to show a priority controller for providing a first priority to a packet for use in a communication associated with the cache control operation, wherein the first priority is lower than a second priority associated with an ordinary operation of the at least one cache server. This would have provided a better QoS for the network system, col. 2, and lines 7-21.

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yates et al., U.S. Patent 6,167,438 discloses a method and system for caching and prefetching wherein servers discard documents based on factors such as path load information.

Stewart et al., U.S. Patent 6,201,794 discloses a network comprising efficient message routing by choosing route paths based on network conditions.

Isoyama et al., U.S. Patent 6,546,422 discloses a method for caching network contents by relays that determine cache priority.

Hassel et al., U.S. Patent 6,606,303 discloses a method for calculating a lowest cost route.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hassan Phillips whose telephone number is (571) 272-3940. The examiner can normally be reached on M-F 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571) 272-3939. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HP/
11/12/04

ZARNI MAUNG
PRIMARY EXAMINER